# CARBOHYDRATE CONJUGATION


+ PS

(POLYSACCHARIDE)

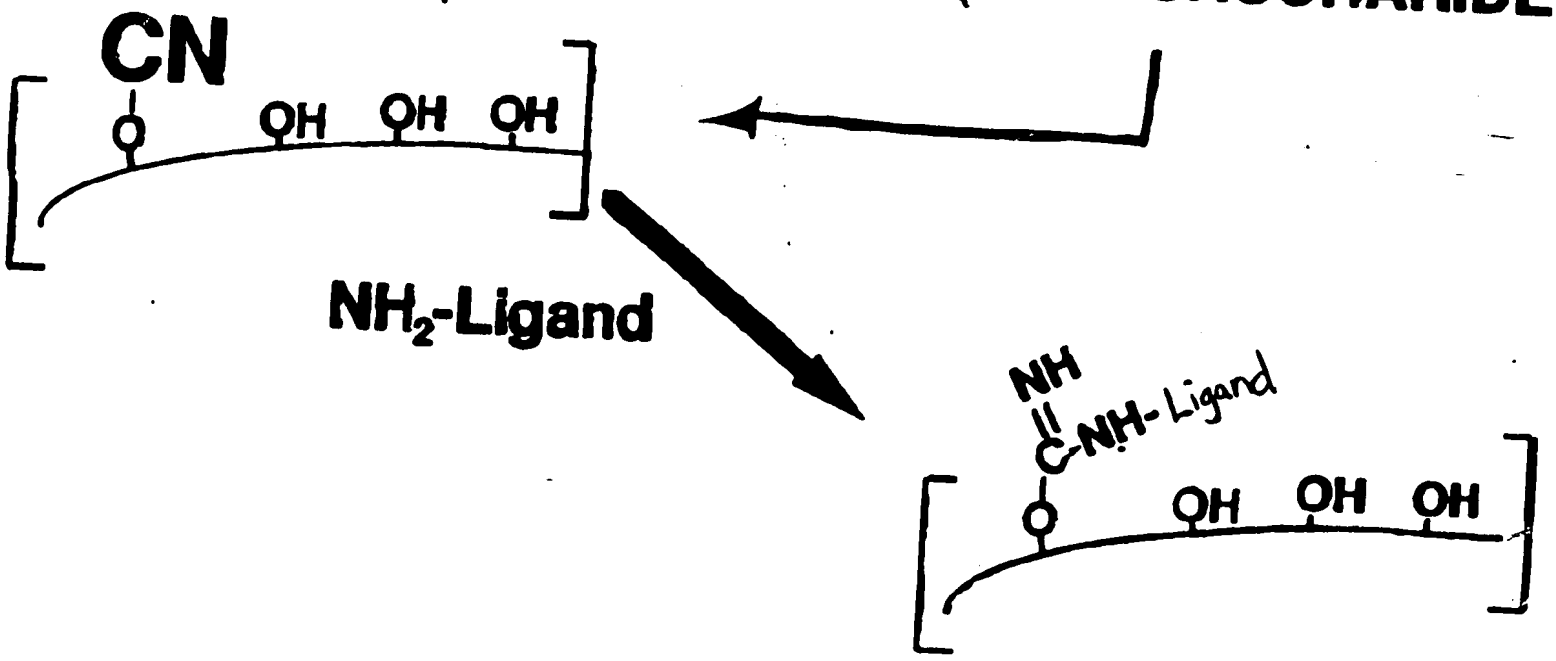


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Figure 1

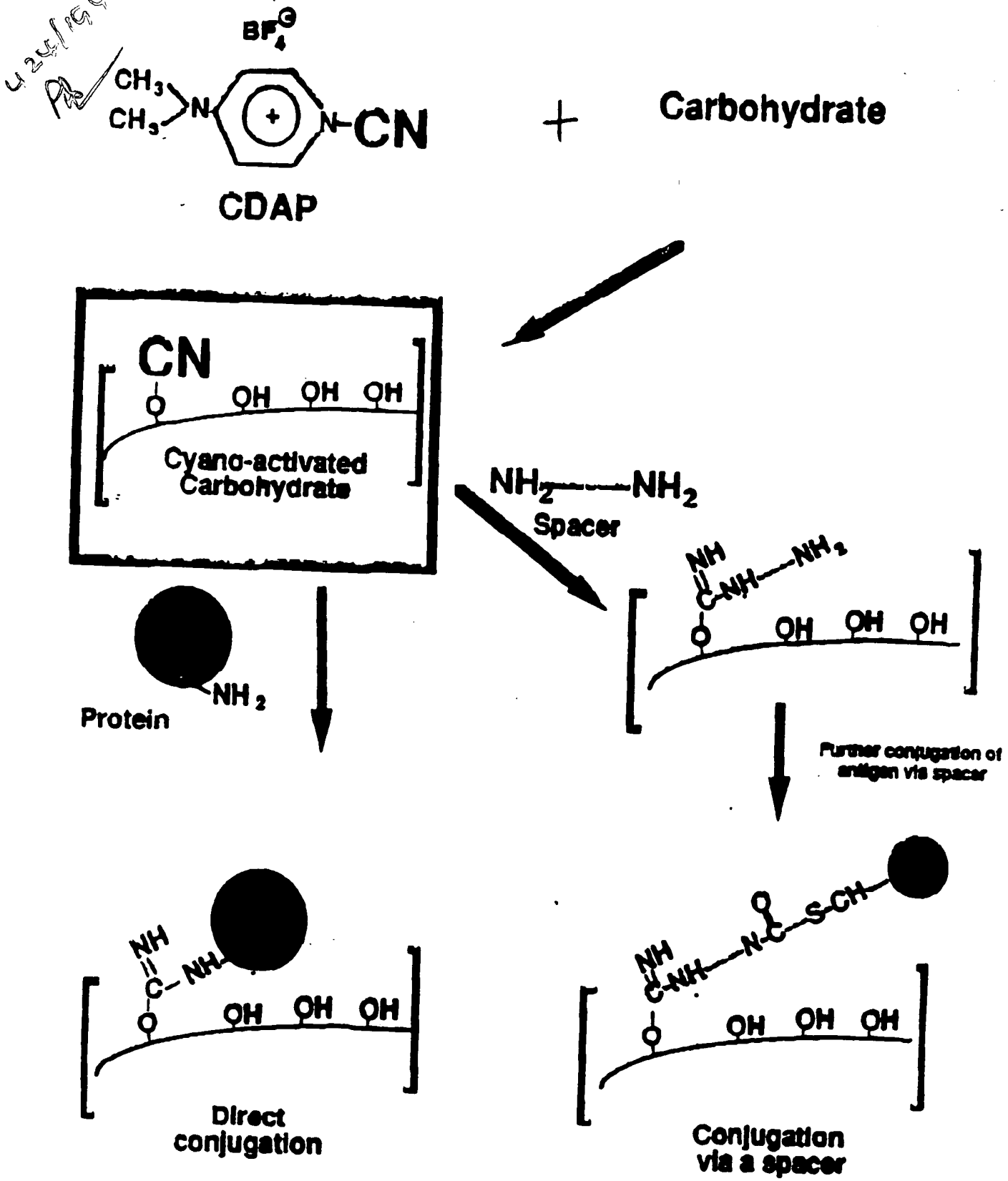
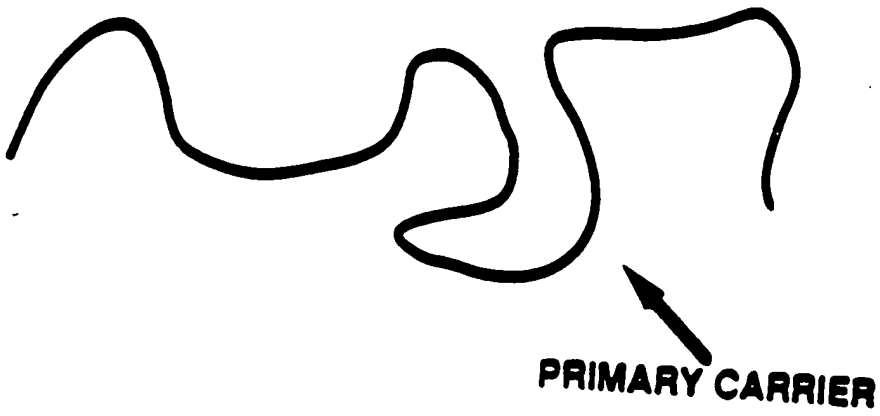

BF4⊖
CH3
CH3
N
N
CN
CDAP
+
Carbohydrate
CN
OH OH OH
Cyano-activated Carbohydrate
NH2——NH2
Spacer
NH2
Protein
NH
C
NH
NH2
OH OH OH
Further conjugation of antigen via spacer
NH
C
NH
O
OH OH OH
Direct conjugation
S
CH
Conjugation via a spacer

Figure 2

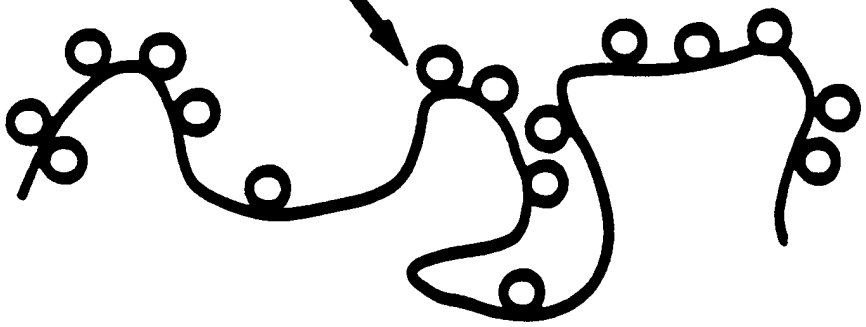
# MODEL OF DUAL CARRIER VACCINE



424/194.1




SECONDARY CARRIER CONJUGATED TO PRIMARY CARRIER



HAPTENATED SECONDARY CARRIER CONJUGATED TO PRIMARY CARRIER

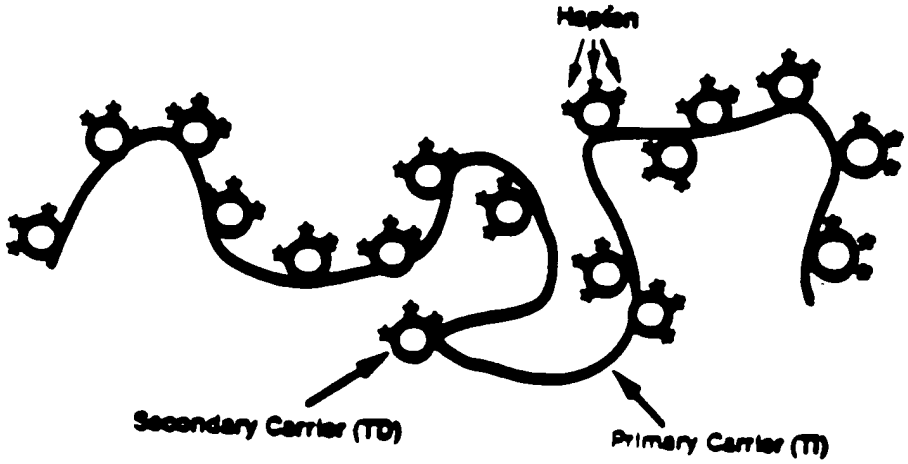



FIGURE 3

424/194-1
PA

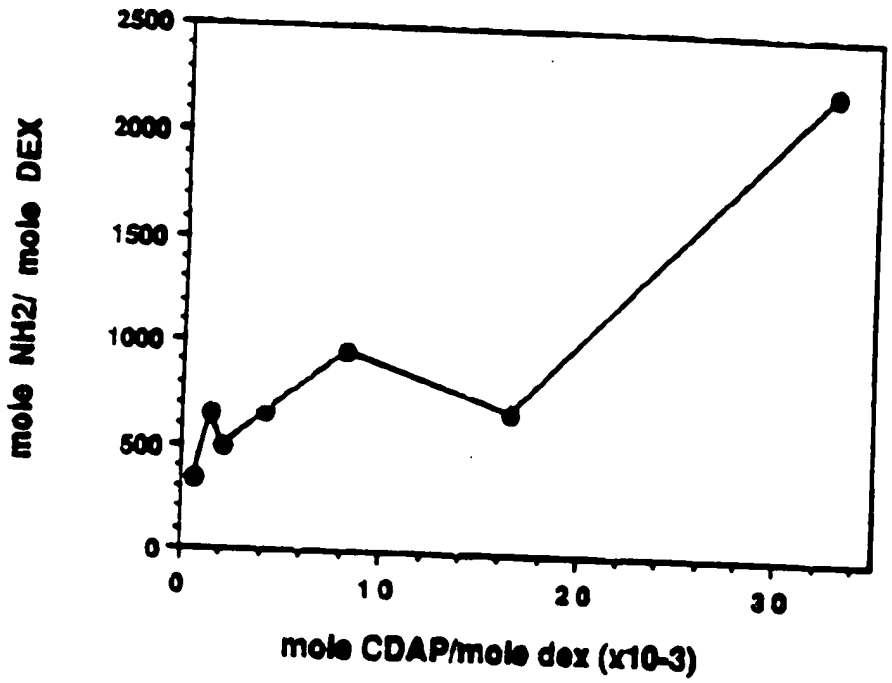



Figure 4

424/194.1
PC

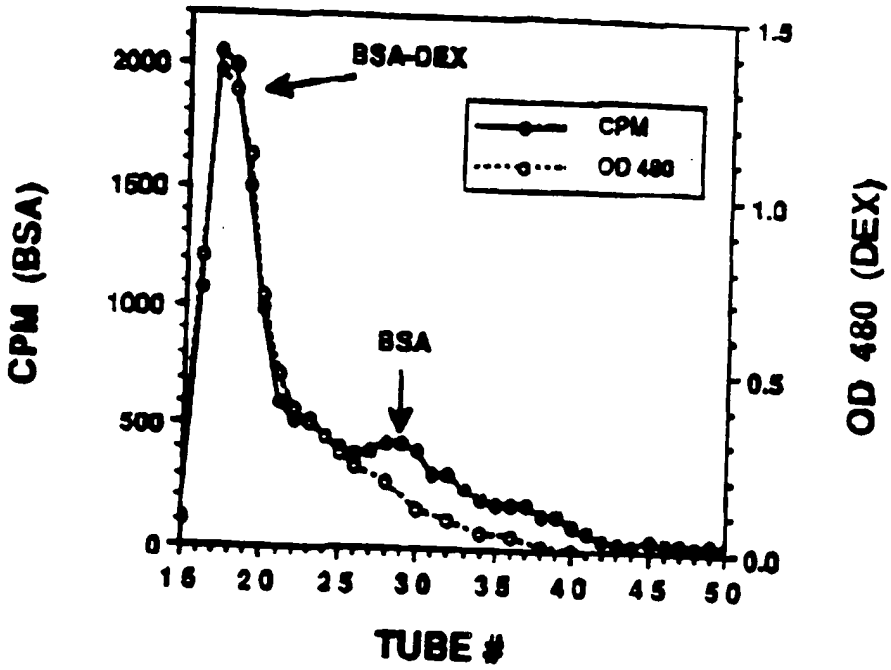



Fig. 5

4241(94-1
PL

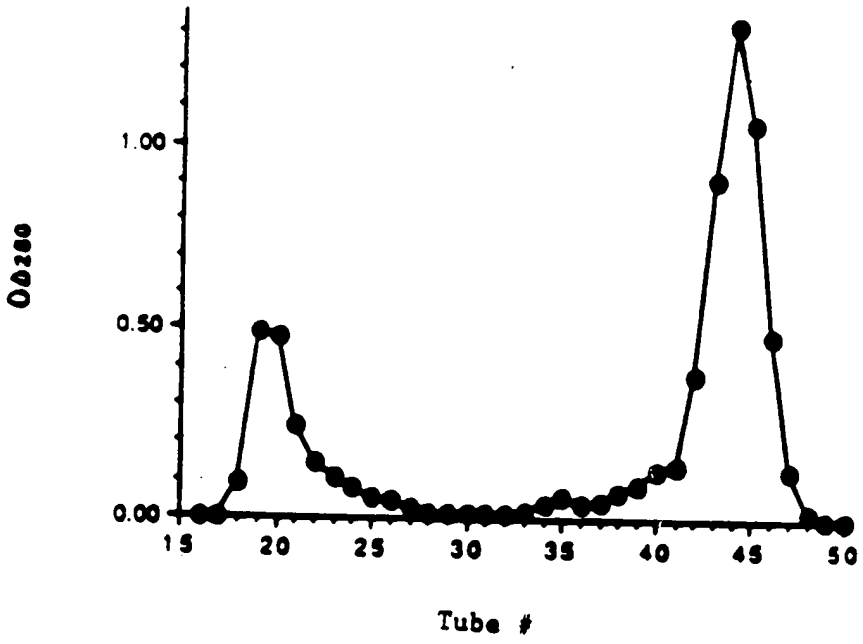



Figure 6

4/24/1994.1

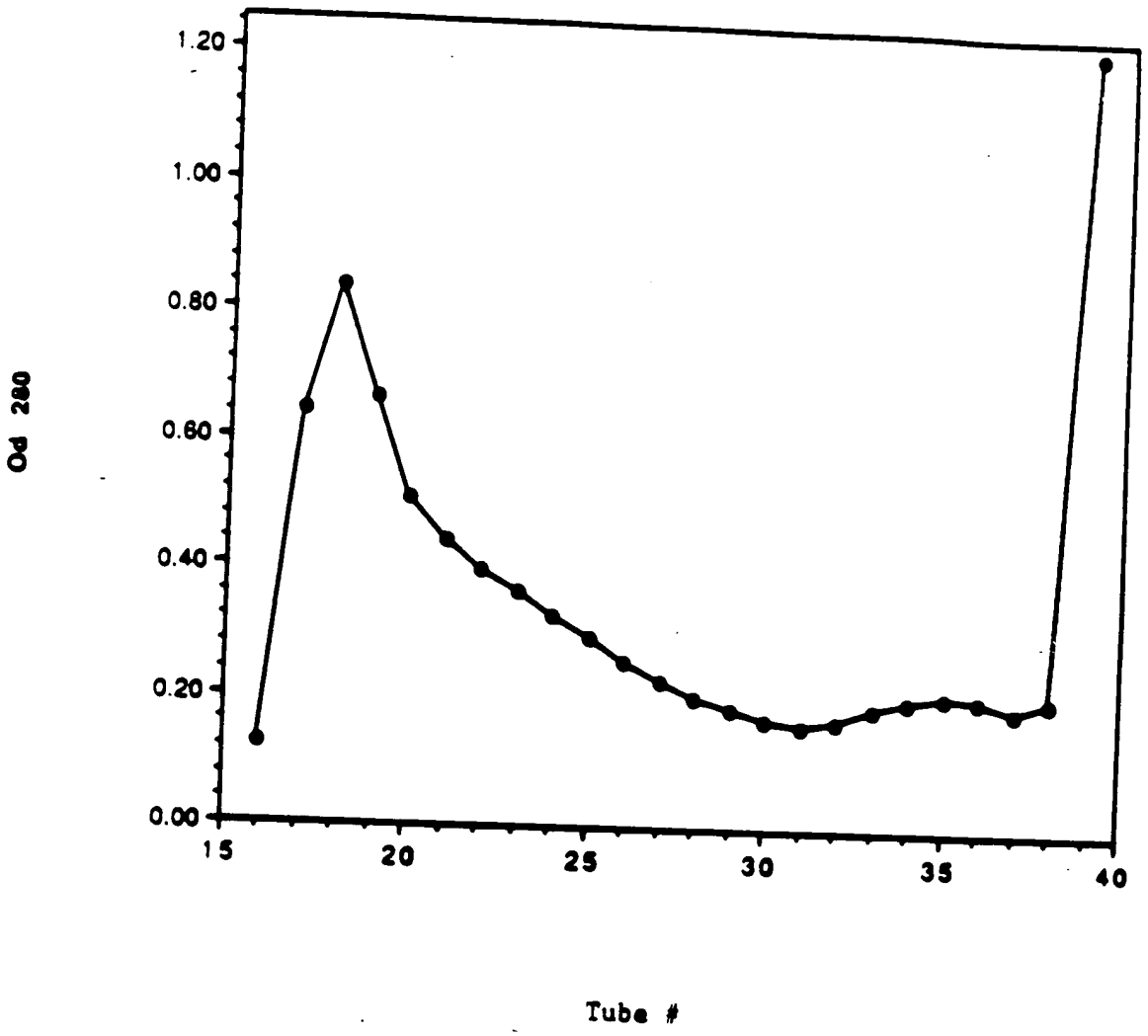



Figure 7

42+1194.1

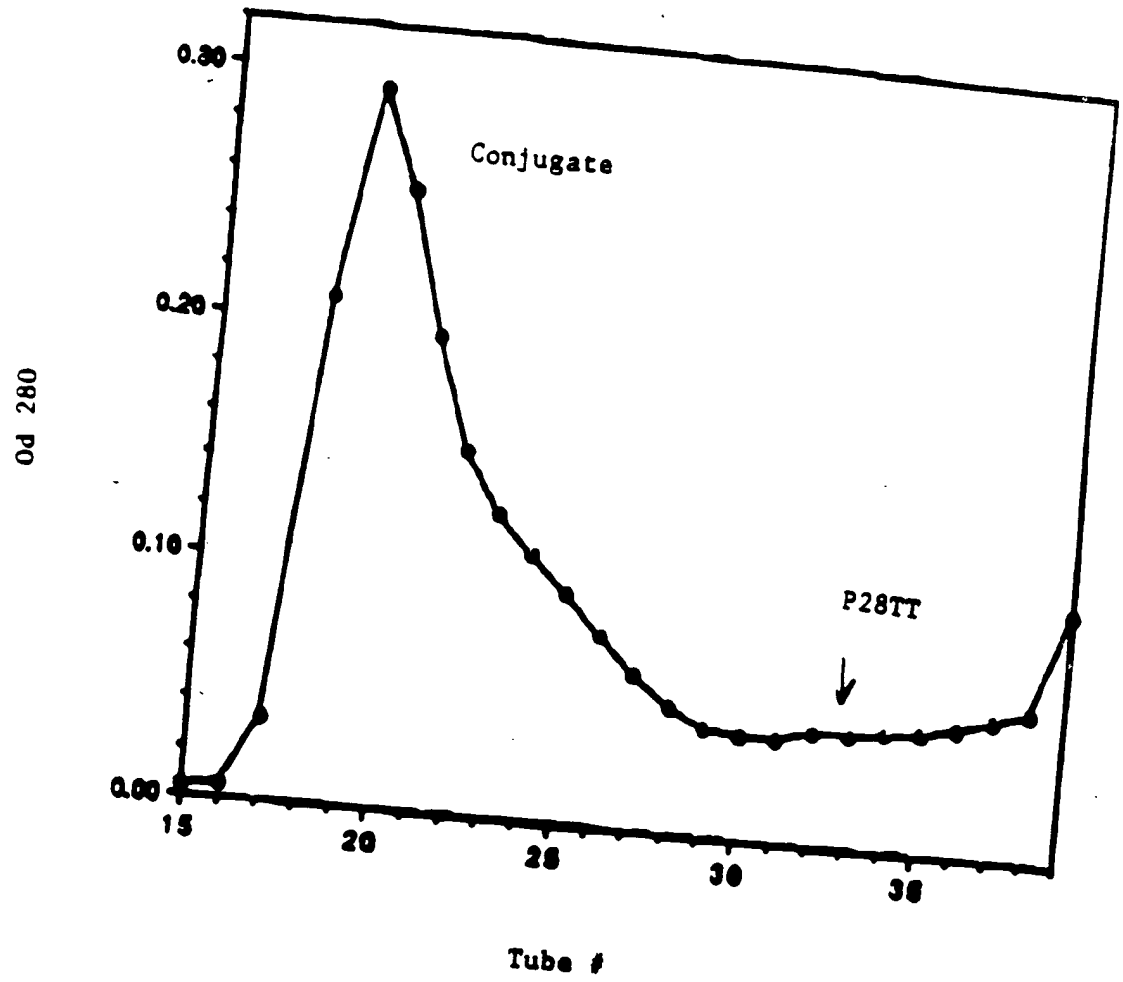



Figure 8

4241194-1

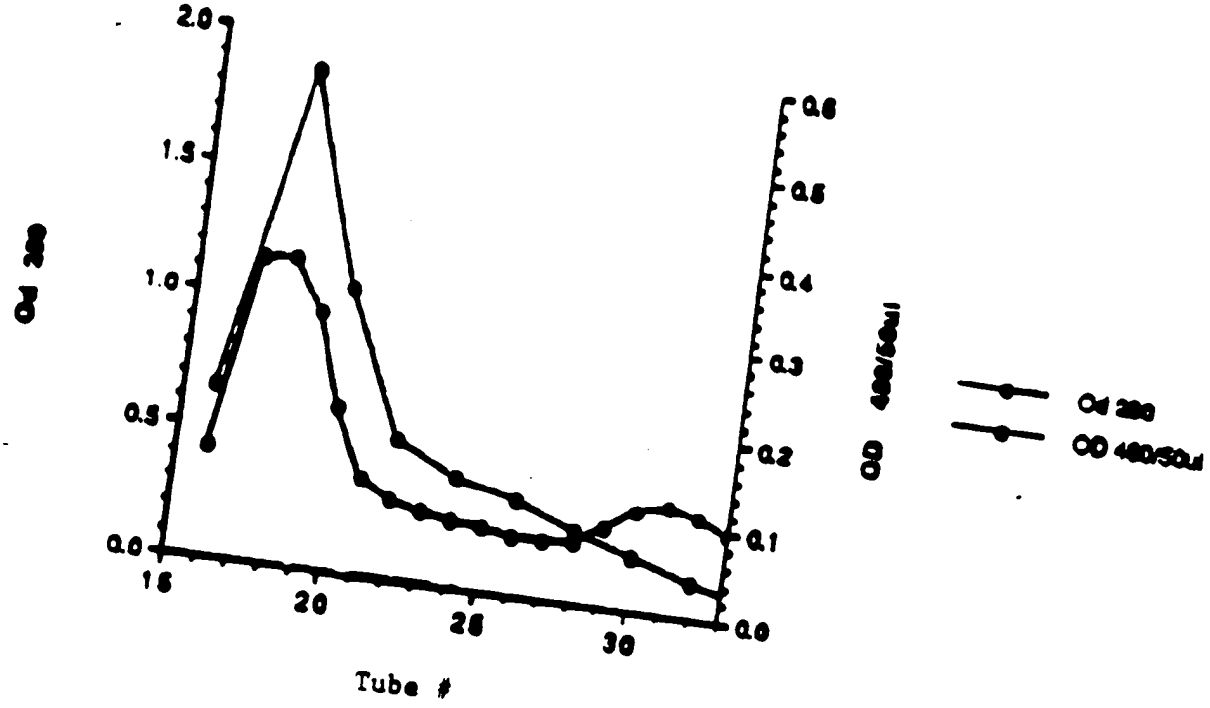



Figure 9

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Derivatization of dextran with hexane diamine with CDAP

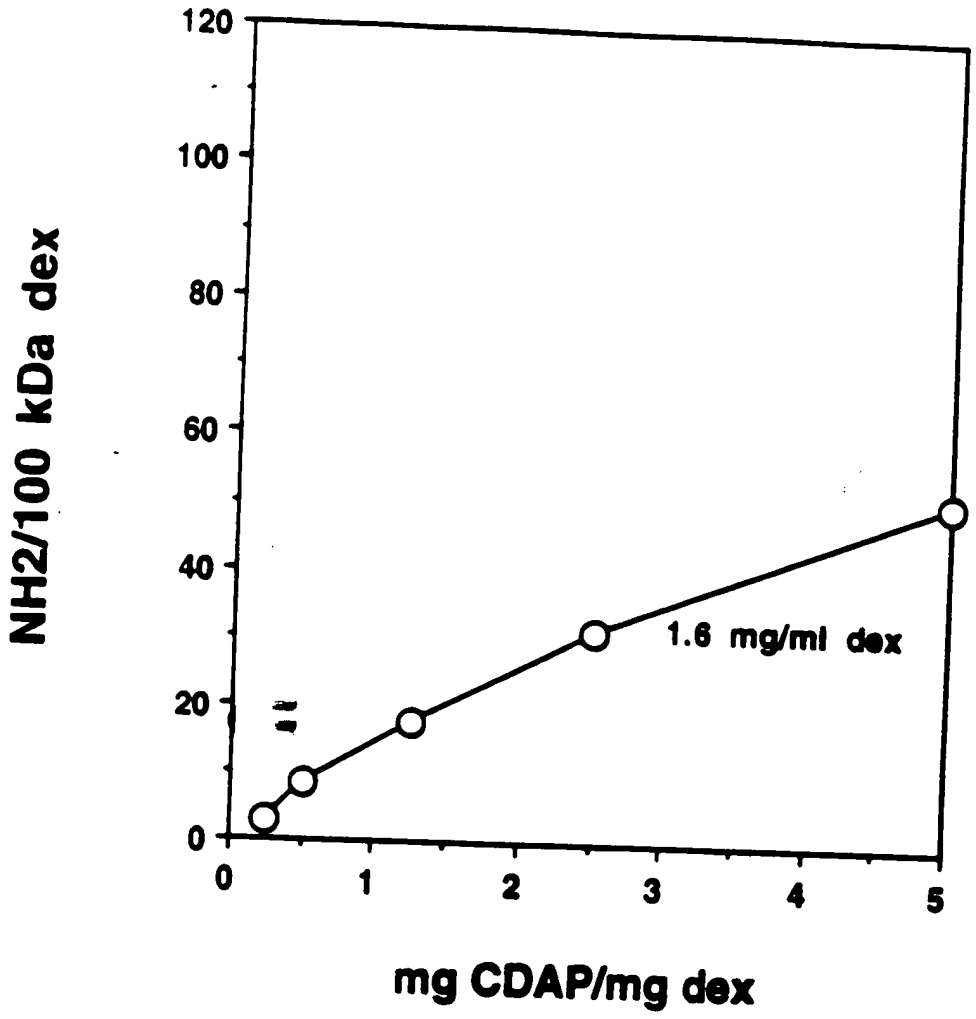


Figure 10

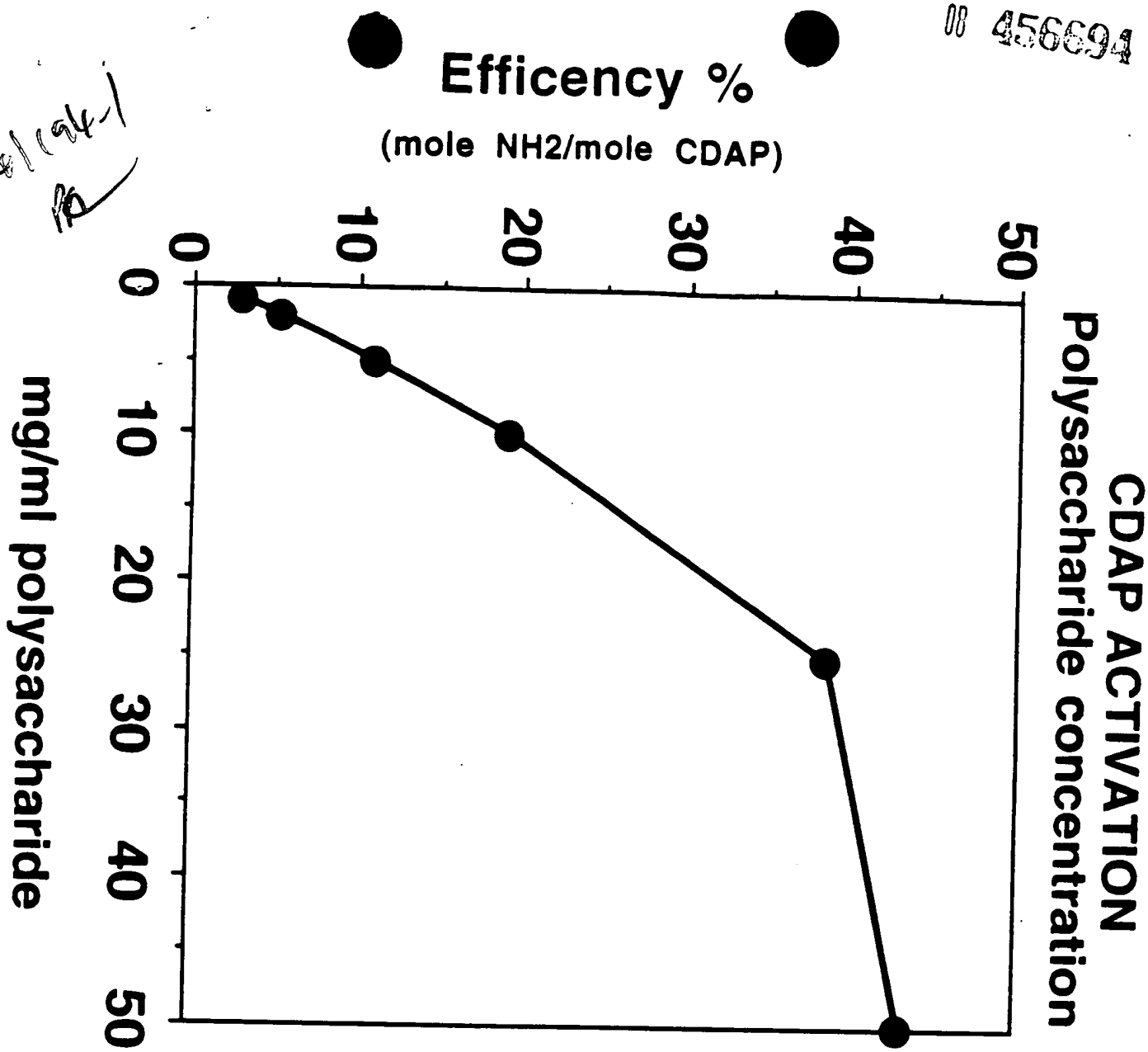


Figure 11

4244/15F-1
PR

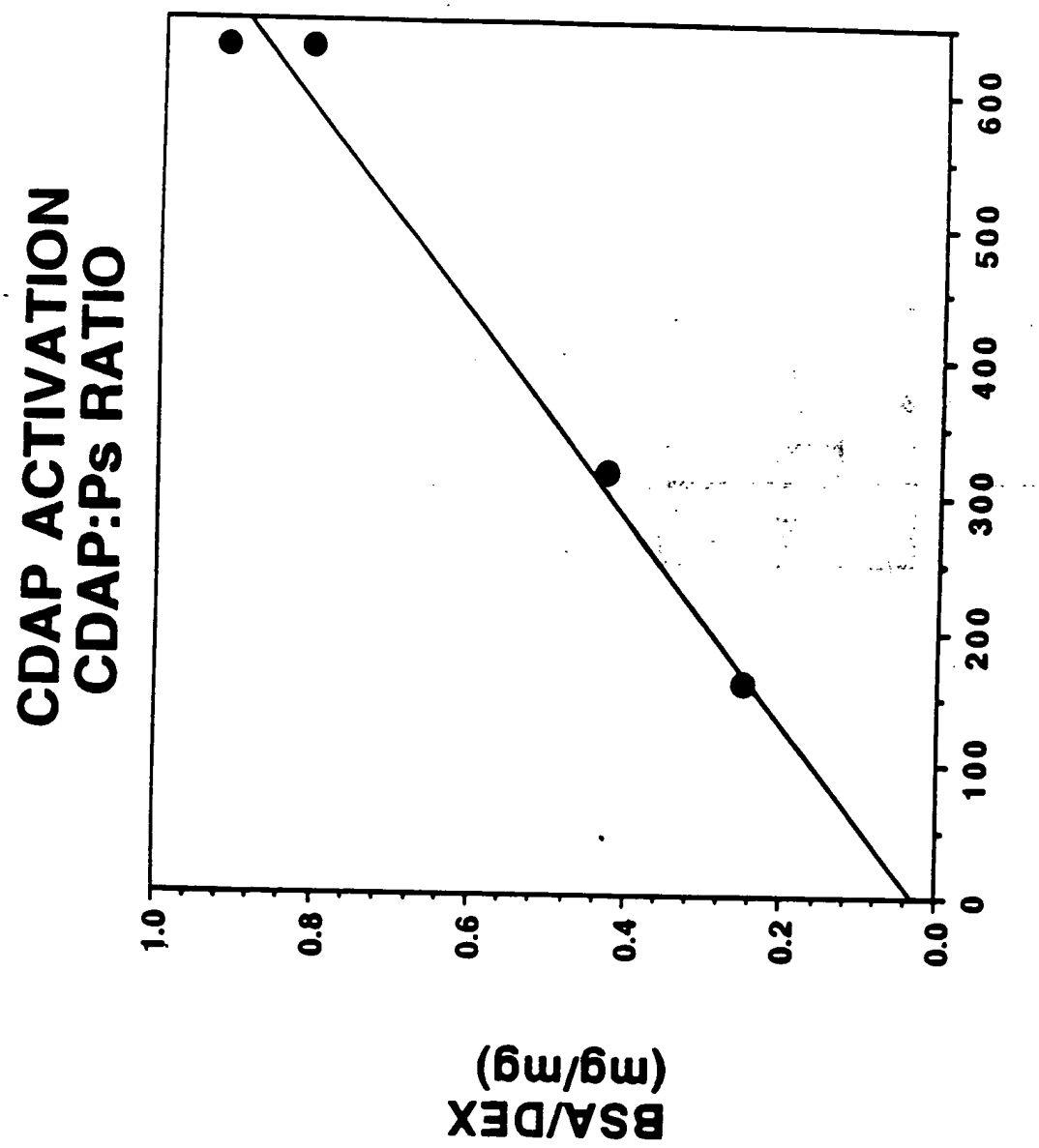


Figure 12

424/194-1
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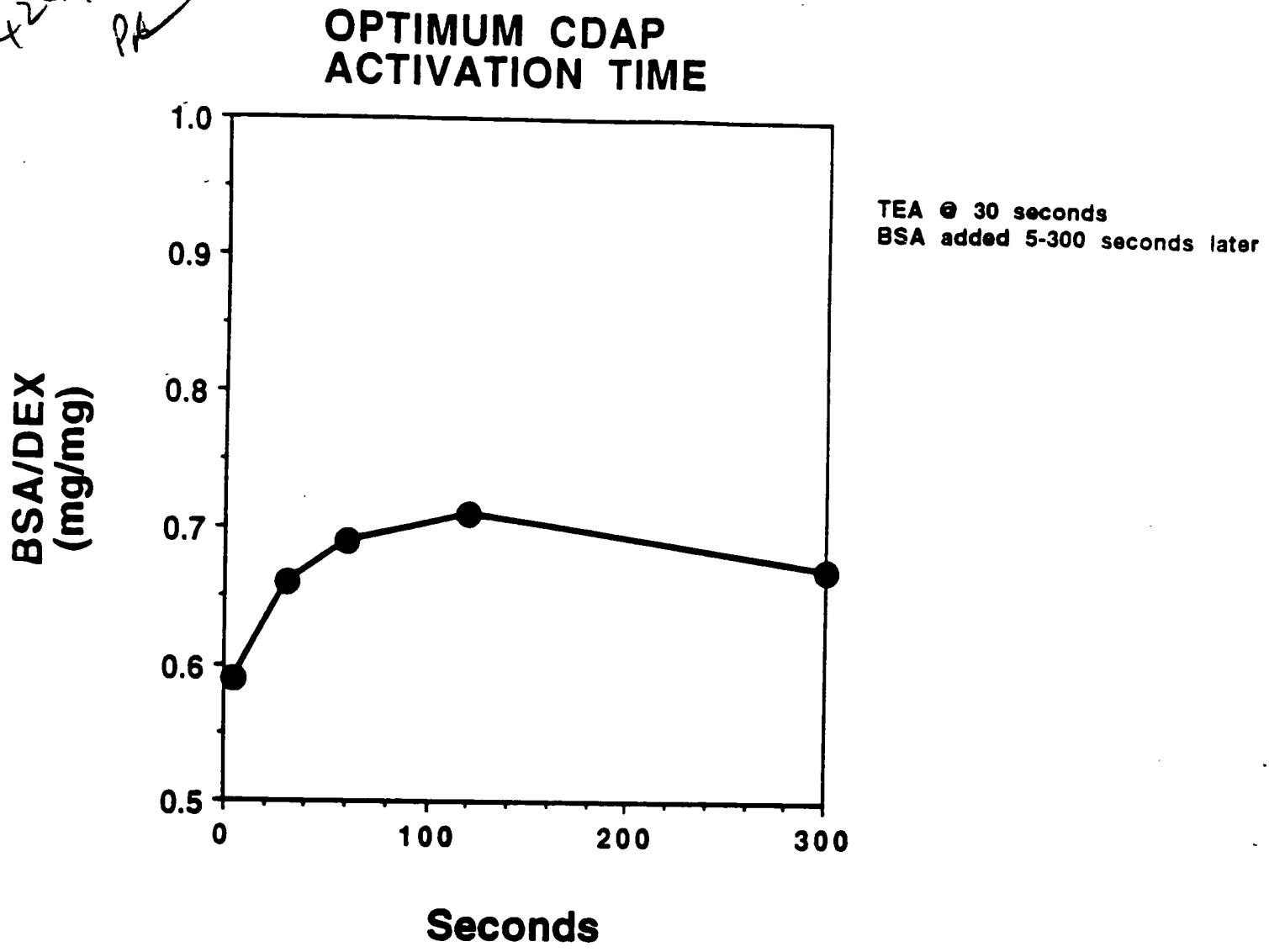
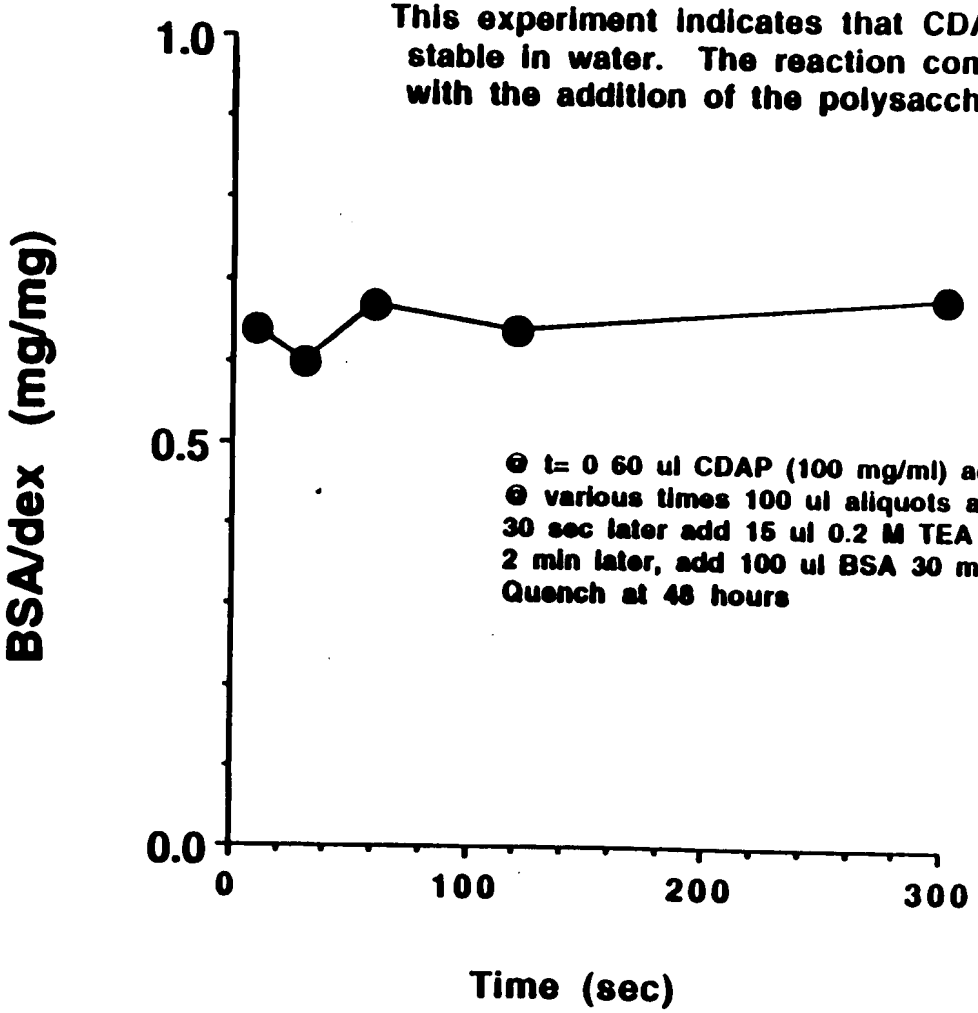



Figure 13

## Stability of CDAP in water

This experiment indicates that CDAP is stable in water. The reaction commences with the addition of the polysacchride and the increase in pH.




@ t= 0 60 ul CDAP (100 mg/ml) added to 1 ml water
@ various times 100 ul aliquots added to 100 ul dex @ 20 mg/ml
30 sec later add 15 ul 0.2 M TEA
2 min later, add 100 ul BSA 30 mg/ml
Quench at 48 hours

Figure 14

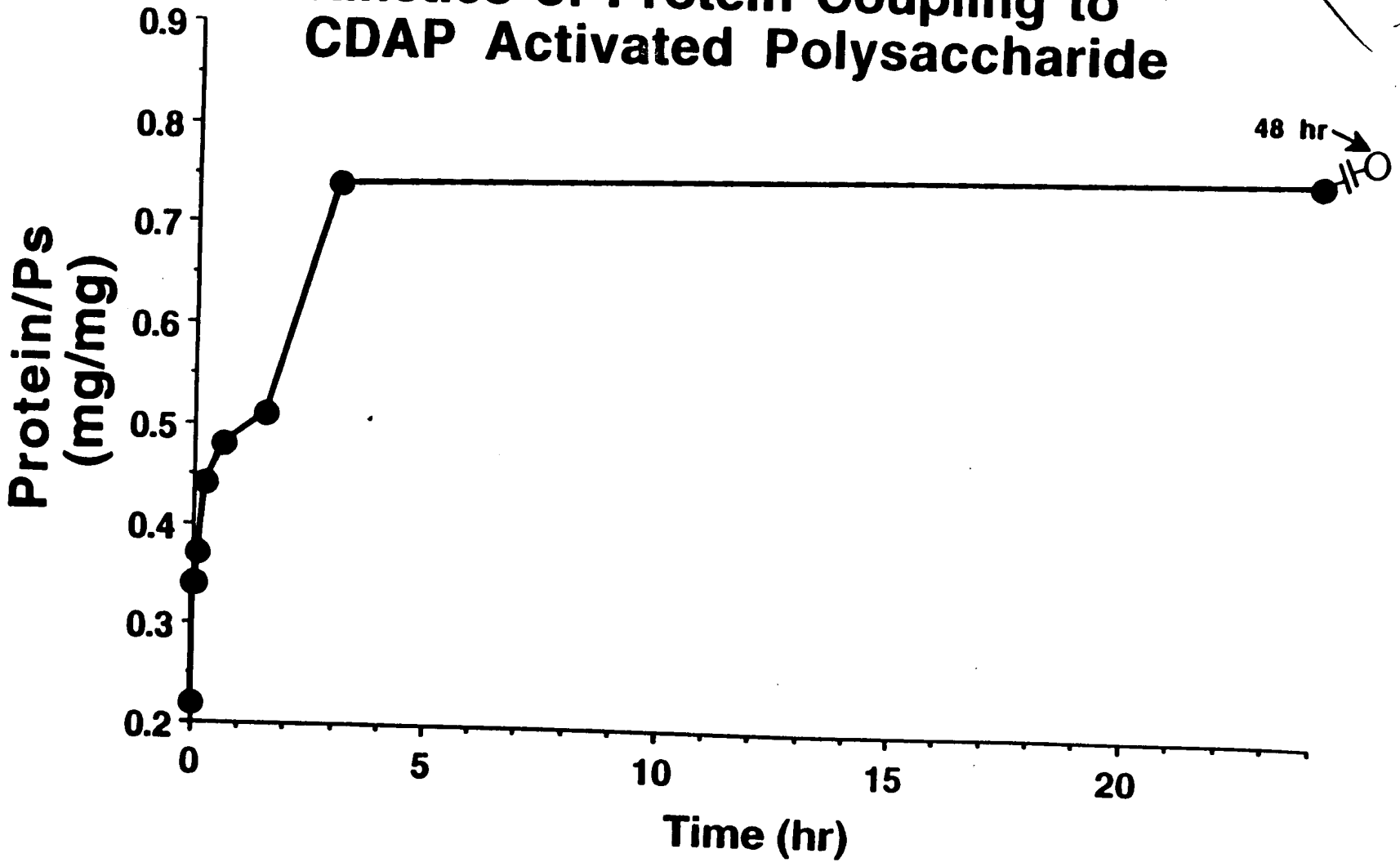



Figure 15

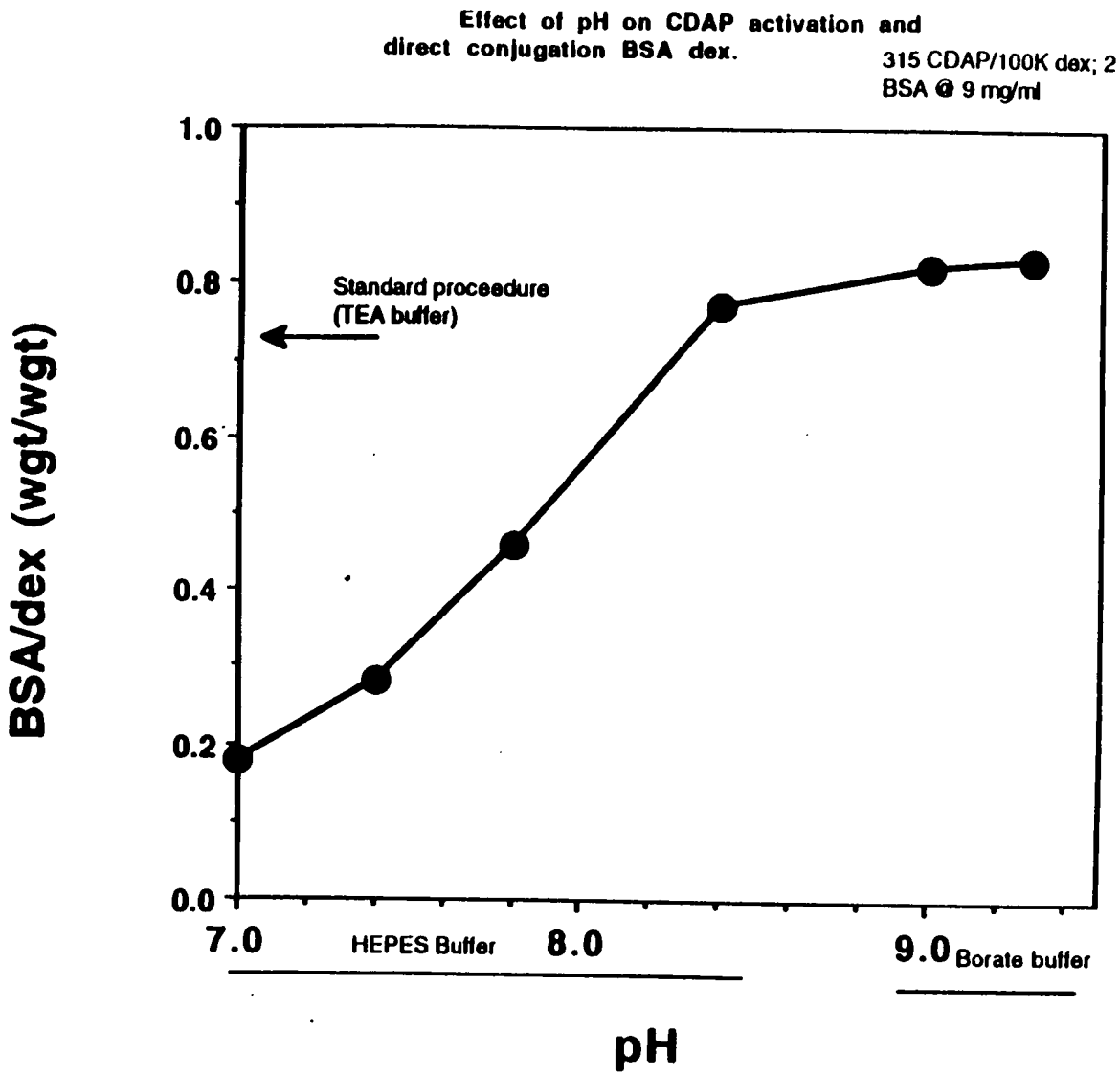



Figure 16

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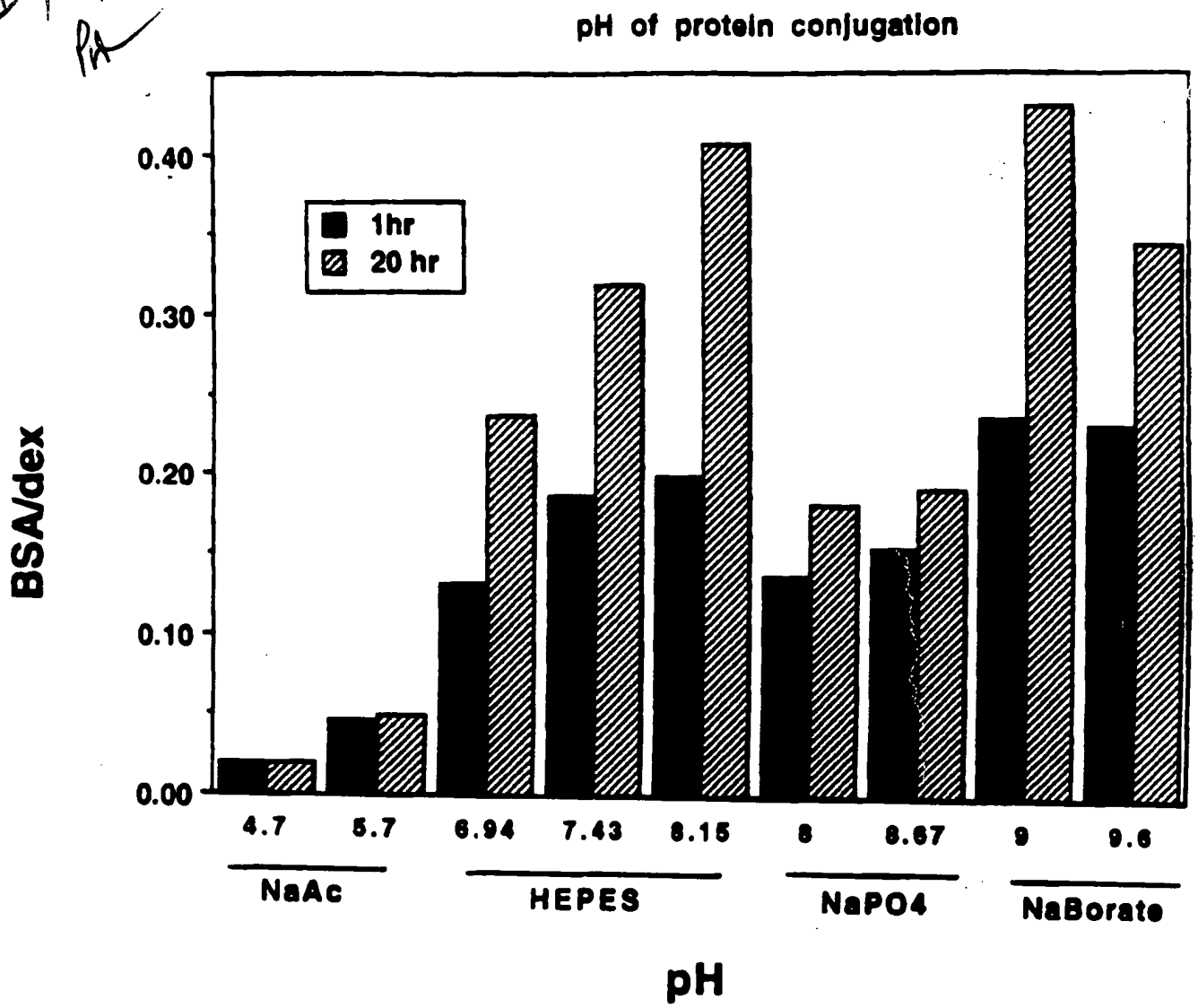


Figure 17